

# EISK8-100T/F\_ Series **CTRLink**<sup>®</sup>

Plug and Play Fibre Switching Hub for Industrial Automation Systems

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## Installation Guide

EISK8-100T/F\_ switching hubs are designed for Industrial Automation environments. Like all Ethernet switches from Contemporary Controls, each switching hub features non-blocking (full wire-speed) operation.

Two *fibre* ports communicate at 100 Mbps and each port has one LED for link status and activity. The series has three models that vary by type of fibre connector in use. The EISK8-100T/FC and the EISK8-100T/FCS use the SC type of connector. The EISK8-100T/FT uses the ST type. Only full-duplex is supported on the fibre ports.

Six *copper* ports automatically negotiate the data rate to 10 Mbps or 100 Mbps and set flow control with the PAUSE function (full-duplex links) or the backpressure method (half-duplex links). Each copper port uses the Auto-MDIX function for attaching local devices and has one LED for link/activity/rate and one LED for duplex status.

The unit provides preamble regeneration and retimes signals to eliminate jitter. Digital pre-emphasis compensates for inherent signal strength roll-off. Link indicates that a working adapter or hub is on the distant end of a segment.

Port assignments are learned by reading Ethernet frames and logging the source addresses to a table. Learned addresses are aged out of the table after 300 seconds of inactivity. Throughput is optimized by restricting traffic to only those ports that are party to a data exchange (while other data is simultaneously exchanged on other ports). Store-and-forward operation is used. Each port can receive any type of Ethernet message: broadcast, multicast, or unicast.

The switch works from a wide range of low-voltage AC or DC power and features a power LED.

Each unit is provided with a writable label for easy identification of the remote device attached to each cable.

**CONTEMPORARY** CONTROLS<sup>®</sup>



# Specifications

## Electrical

INPUT	DC	AC
Voltage:	10–36 V	8–24 V
Power	7 W	7 VA
Frequency:	N/A	47–63 Hz

## Environmental

Operating Temp:	0°C	to +60°C
Storage Temp:	-40°C	to +85°C
Humidity:	10–95%, non-condensing	

DIN-rail Mounting TS-35

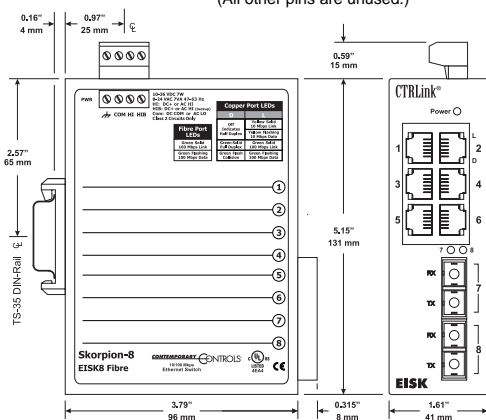
Shipping Weight 1 lb (0.45 kg)

## Regulatory Compliance

CE Mark; EN55022; EN55024  
CFR 47 Part 15, Class A  
UL508 — Industrial Control Equipment

For use in Class 2 circuits

## Mechanical



## Functional

Compliance: ANSI/IEEE 802.3

	Copper	Fibre
Data Rates:	10/100 Mbps	100 Mbps
Signalling:	10BASE-T 100BASE-TX	100BASE-FX

Connectors:	RJ-45 (shielded)	SC or ST
Segment Length (max):	100 m	2 km*
		15 km**
	* multimode, full-duplex	** single-mode, full-duplex

## LED Indicators

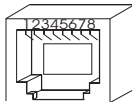
Power	green
Port Activity	flashing
Port Rate/Link	yellow/green (10/100 Mbps)
Duplex	green (on for full-duplex)

## RJ-45 Connector Pin Assignments

### Pin Function

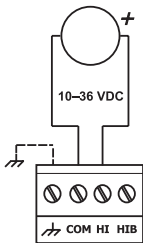
1	TD+
2	TD-
3	RD+
6	RD-

(All other pins are unused.)

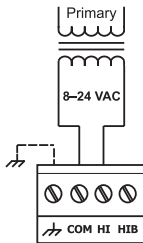


## Power Options

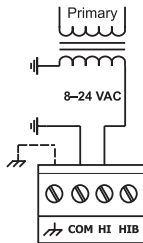
Connecting chassis to earth or using a backup source is always optional.



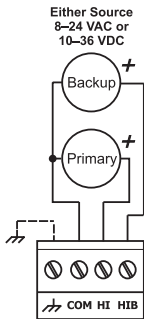
DC Powered



AC Powered



AC Powered with  
Grounded Secondary



Redundant  
Power

## Power Considerations

Voltage in the range of 10–36 VDC or 8–24 VAC must deliver current commensurate with power consumption. Recommended size for solid power conductors is 16–22 AWG; for stranded conductors, use 16–18 AWG. Common is directly connected to zero volts and chassis is isolated from zero volts. Input connections are reverse-polarity protected.

## LED Indicators

The “PWR” LED glows solid green when the switch is properly powered. To aid in troubleshooting, each copper port has two LEDs. The Port 1 LED labelled “L” glows solid if a link exists, flashes to show activity and shows data rate by colour: green for 100 Mbps and yellow for 10 Mbps. The LED labelled “D” glows solid green if full-duplex is on or is unlit when the port is in half-duplex mode — but in half-duplex operation it will flash if a collision occurs. The LEDs of Ports 2–6 are unlabeled but work the same. The fibre port (7 and 8) LEDs glow solid green if linked to a working 100BASE-FX port and each LED flashes when data moves through the port.

## Network Connections

The switch employs Auto-MDIX technology so that either straight-through or crossover cables can be used to connect to network interface adapters or to other hubs. Cable issues are shown in the chart to the right

Medium	Signaling & Data Rate	Minimum Cable Needed	Maximum Segment Distance
Copper	10BASE-T 100BASE-TX 10/100 Mbps	CAT 5 UTP	100 m (328 ft)
Fibre	100BASE-FX 100 Mbps	Multimode 50/125 or 62.5/125 $\mu$ m	Full-Duplex : 2 km (6562 ft)
		Single Mode	Full-Duplex : 15 km (49212 ft)

## NEED MORE HELP INSTALLING THIS PRODUCT?

More information can be found in the Technical Support part of our web site at [www.ccontrols.com](http://www.ccontrols.com). If contacting our office, ask for Technical Support.

## WARRANTY

Contemporary Controls (CC) warrants this product to the original purchaser for five years from the shipping date. If it fails to operate in compliance with its specification during this period, CC will, at its option, repair or replace the product at no charge. Product returned to CC for repair is warranted for one year from the date that the repaired product is shipped back to the purchaser or for the remainder of the original warranty period, whichever is longer. The customer is responsible for shipping product; CC assumes no responsibility for product until received. This limited warranty covers products only as delivered. User modification may void the warranty. Damage from abuse, accident, disaster, misuse, or incorrect installation are not covered. This warranty in no way warrants suitability of the product for any specific application. More warranty information can be found at [www.ccontrols.com](http://www.ccontrols.com).

**Warning:** This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

## RETURNING PRODUCTS FOR REPAIR

Before returning a product for repair, contact the manufacturer (US office) or its representative (UK office) below for instructions on return procedure:

Contemporary Control Systems, Inc.  
2431 Curtiss Street  
Downers Grove, Illinois 60515 USA  
Tel: +1-630-963-7070  
Fax: +1-630-963-0109  
E-mail: [info@ccontrols.com](mailto:info@ccontrols.com)  
WWW: <http://www.ccontrols.com>

Contemporary Controls Ltd  
Sovereign Court Two, UWSP  
Sir William Lyons Road  
Coventry CV4 7EZ UK  
Tel: +44 (0)24 7641 3786  
Fax: +44 (0)24 7641 3923  
E-mail: [info@ccontrols.co.uk](mailto:info@ccontrols.co.uk)

## DECLARATION OF CONFORMITY

**Applied Council Directives:** EMC Directive 89/336/EEC as amended by 92/31/EEC & 93/68/EEC; General Product Safety Directive 92/59/EEC

**Standards to which Conformity is Declared:** EN 55022:1995 (CISPR22: 1993), Class A; EN 55024:1998, ITE – Immunity – Limits and Methods.

**Type of Equipment:** Industrial Ethernet switching hub

**Models:** EISK8-100T/FC 6-port 10/100, 2-port multimode fibre (SC connectors)  
EISK8-100T/FCS 6-port 10/100, 2-port single-mode fibre (SC connectors)  
EISK8-100T/FT 6-port 10/100, 2-port multimode fibre (ST connectors)

**Manufacturer's Declaration of November, 2006:** I declare that the above models conform to the above directives and standards.

George M. Thomas, President

TD050700-01C